KETAMINE METABOLITES FOR THE TREATMENT OF DEPRESSION AND PAIN

SUMMARY

The National Institute on Aging, Laboratory of Clinical Investigation, is seeking parties interested in collaborative research to co-develop ketamine metabolites for the treatment of different forms of depression and for alleviating pain.

REFERENCE NUMBER

E-092-2011

PRODUCT TYPE

- Therapeutics

KEYWORDS

- ketamine
- depression
- complex regional pain syndrome (CRPS)

COLLABORATION OPPORTUNITY

This invention is available for licensing.

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DESCRIPTION OF TECHNOLOGY

There continues to be a need for therapeutics for treating pain and depression that have efficacy in a high percentage of patients yet also have reduced anesthetic properties and abuse liability.

Ketamine, a drug currently used in human anesthesia and veterinary medicine, has been shown in clinical studies to be effective in the treatment of several conditions, including treatment-resistant bipolar depression, major depressive disorder, neuropathic pain, and chronic pain, including complex regional pain syndrome (CRPS). However the routine use of the drug is hindered by unwanted central nervous system (CNS) effects and a patient response rate of ~70%. New data suggests that ketamine metabolites can be used with similar results but with an increase in patient response rates and a decrease in undesirable side effects.

POTENTIAL COMMERCIAL APPLICATIONS

Treatment of pain and depression.

COMPETITIVE ADVANTAGES

- Bypasses the human metabolic machinery needed to convert the drug into its active metabolite(s), therefore allowing increased number of patients to respond and be treated.
- Decreased CNS side effects.

INVENTOR(S)

Carlos A Zarate (NIMH)
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DEVELOPMENT STAGE

- Discovery (Lead Identification)

PUBLICATIONS

Moaddel R, et al. A parallel chiral-achiral liquid chromatographic method for the determination of the stereoisomers of ketamine and ketamine metabolites in the plasma and urine of patients with complex regional pain syndrome. Talanta. 2010 Oct 15;82(5):1892-1904. [PMID: 20875593]

PATENT STATUS

- **U.S. Filed:** US provisional application 61/547,336. Related technologies: US 11/688,603

RELATED TECHNOLOGIES

- E-174-2006

THERAPEUTIC AREA

- Central Nervous System, Mental and Behavioral, Pain